

PATENT

Docket No.

E-1654CIP

Box Patent Application

Commissioner of Patents and Trademarks

Washington, D.C. 20231

NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of

Inventor(s):

WILLIAM W. HOFFMAN

WARNING: Patent must be applied for in the name(s) of all of the actual inventor(s). 37 CFR 1.41(a) and 1.53(b).

For (title):

MEASURING DEVICE

1. Type of Application

This new application is for a(n) (check one applicable item below):

- ☒ Original
☐ Design
☐ Plant

WARNING: Do not use this transmittal for a completion in the U.S. of an International Application under 35 U.S.C. 371(c)(4) unless the International Application is being filed as a divisional, continuation or continuation-in-part application.

NOTE: If one of the following 3 items apply then complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF A PRIOR U.S. APPLICATION CLAIMED.

- ☐ Divisional
☐ Continuation
☒ Continuation-in-part (CIP)

CERTIFICATION UNDER 37 CFR 1.10

I hereby certify that this New Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this date APRIL 19, 1999 in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number EJ099701151US addressed to the: Commissioner of Patents and Trademarks, Washington, D.C. 20231.

JOHN F. A. EARLEY III

(Type or print name of person mailing paper)



(Signature of person mailing paper)

NOTE: Each paper or fee referred to as enclosed herein has the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 CFR 1.10(b).

2. Benefit of Prior U.S. Application(s) (35 USC 120)

NOTE: If the new application being transmitted is a divisional, continuation or a continuation-in-part of a parent case, or where the parent case is an International Application which designated the U.S., then check the following item and complete and attach **ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED**.

- ☐ The new application being transmitted claims the benefit of prior U.S. application(s) and enclosed are **ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED**.

3. Papers Enclosed Which Are Required For Filing Date Under 37 CFR 1.53(b) (Regular) or 37 CFR 1.153 (Design) Application

17 Pages of specification

10 Pages of claims

1 Pages of Abstract

3 Sheets of drawing

- ☐ formal
☐ informal

WARNING: DO NOT submit original drawings. A high quality copy of the drawings should be supplied when filing a patent application. The drawings that are submitted to the Office must be on strong, white, smooth, and non-shiny paper and meet the standards according to § 1.84. If corrections to the drawings are necessary, they should be made to the original drawing and a high-quality copy of the corrected original drawing then submitted to the Office. **Only one copy is required or desired.** Comments on proposed new 37 CFR 1.84, Notice of March 9, 1988 (1980 O.G. 57-62).

NOTE: "Identifying indicia such as the serial number, group and unit, title of the invention, attorney's docket number, inventor's name, number of sheets, etc., not to exceed 2 1/4 inches (7.0 cm.) in width may be placed in a centered location between the side edges within three fourths inch (19.1 mm.) of the top edge. Either this marking technique on the front of the drawing or the placement, although not preferred, of this information and the title of the invention on the back of the drawings is acceptable." Proposed 37 CFR 1.84(f). Notice of March 9, 1988 (1080 O.G. 57-62).

4. Additional papers enclosed

- ☐ Preliminary Amendment
☐ Information Disclosure Statement
☐ Form PTO-1449
☐ Citations
☐ Declaration of Biological Deposit
☐ Submission of "Sequence Listing," computer readable copy and/or amendment pertaining thereto for biotechnology invention containing nucleotide and/or amino acid sequence.
☐ Authorization of Attorney(s) to Accept and Follow Instructions from Representative
☐ Special Comments
☐ Other

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5. Declaration or oath☒ Enclosedexecuted by (*check all applicable boxes*)☐ inventor(s).☐ legal representative of inventor(s). 37 CFR 1.42
or 1.43☐ joint inventor or person showing a proprietary
interest on behalf of inventor who refused to sign
or cannot be reached.☐ this is the petition required by 37 CFR 1.47 and the statement re-
quired by 37 CFR 1.47 is also attached. *See Item 13 below for fee.*☐ Not Enclosed.

WARNING: Where the filing is a completion in the U.S. of an International Application but where a declaration is not available or where the completion of the U.S. application contains subject matter in addition to the International Application the application may be treated as a continuation or continuation-in-part, as the case may be, utilizing ADDED PAGE FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION CLAIMED.

☐ Application is made by a person authorized under 37 CFR 1.41(c) on behalf of all the above named inventor(s). The declaration or oath, along with the surcharge required by 37 CFR 1.16(e) can be filed subsequently.

NOTE: It is important that all the correct inventor(s) are named for filing under 37 CFR 1.41(c) and 1.53(b).

☐ Showing that the filing is authorized. (*Not required unless called into question. 37 CFR 1.41(d).*)**6. Inventorship Statement**

WARNING: If the named inventors are each not the inventors of all the claims an explanation, including the ownership of the various claims at the time the last claimed invention was made, should be submitted.

The inventorship for all the claims in this application are:

☒ The same

or

☐ Are not the same. An explanation, including the ownership of the various claims at the time the last claimed invention was made,☐ is submitted.☐ will be submitted.**7. Language**

NOTE: An application including a signed oath or declaration may be filed in a language other than English. A verified English translation of the non-English language application and the processing fee of \$30.00 required by 37 CFR 1.17(k) is required to be filed with the application or within such time as may be set by the Office. 37 CFR 1.52(d).

NOTE: A non-English oath or declaration in the form provided or approved by the PTO need not be translated. 37 CFR 1.69(b).

☒ English☐ non-English☐ the attached translation is a verified translation. 37 CFR 1.52(d).

8. Assignment

- ☐ An assignment of the invention to _____
- ☐ is attached.
- ☐ will follow.

NOTE: "If an assignment is submitted with a new application, send two separate letters—one for the application and one for the assignment." Notice of May 4, 1990 (1114 D.G. 77-78).

9. Certified Copy

Certified copy(ies) of application(s)

(country)	(appln. no.)	(filed)
(country)	(appln. no.)	(filed)
(country)	(appln. no.)	(filed)

from which priority is claimed

- ☐ is(are) attached. A separate "ASSIGNMENT COVER LETTER ACCOMPANYING NEW PATENT APPLICATION" is also attached.
- ☐ will follow.

NOTE: The foreign application forming the basis for the claim for priority **must** be referred to in the **oath** or **declaration**. 37 CFR 1.55(a) and 1.63.

NOTE: This item is for any foreign priority for which the application being filed directly relates. If any parent U.S. application or International Application from which this application claims benefit under 35 U.S.C. 120 is itself entitled to priority from a prior foreign application then complete item 18 on the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

10. Fee Calculation (37 CFR 1.16)**A. ☒ Regular application**

CLAIMS AS FILED				
Number filed	Number Extra	Rate	Basic Fee \$ 760.00	
Total				
Claims 37 CFR 1.16(c) $30-20=$	10	X	\$ 18.00	180.00
Independent				
Claims (37 CFR 1.16(b)) $5-3=$	2	X	\$ 78.00	156.00
Multiple dependent claim(s), if any (37 CFR 1.16(d))			\$200.00	

- ☐ Amendment cancelling extra claims enclosed.
- ☐ Amendment deleting multiple-dependencies enclosed.
- ☐ Fee for extra claims is not being paid at this time.

NOTE: If the fees for extra claims are not paid on filing they must be paid or the claims cancelled by amendment prior to the expiration of the time period set for response by the Patent and Trademark Office in any notice of fee deficiency. 37 CFR 1.16(d).

Filing Fee Calculation \$ 1096.00

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B. ☐ Design application

(\$250.00—37 CFR 1.16(f))

Filing Fee Calculation

\$ _____

C. ☐ Plant application

(\$420.00—37 CFR 1.16(g))

Filing fee calculation

\$ _____

11. Small Entity Statement(s)

- ☐ Verified Statement(s) that this is a filing by a small entity under 37 CFR 1.9 and 1.27 is(are) attached.

Filing Fee Calculation (50% of A, B or C above)

\$ _____

NOTE: Any excess of the full fee paid will be refunded if a verified statement and a refund request are filed within 2 months of the date of timely payment of a full fee. 37 CFR 1.29(e).

12. Request for International-Type Search (37 CFR 1.104(d)) (complete, if applicable)

- ☐ Please prepare an international-type search report for this application at the time when national examination on the merits takes place.

13. Fee Payment Being Made At This Time**☒ Not Enclosed**

- ☒ No filing fee is to be paid at this time. (This and the surcharge required by 37 CFR 1.16(e) can be paid subsequently.)

☐ Enclosed

- ☐ basic filing fee

\$ _____

- ☐ recording assignment
(\$8.00; 37 CFR 1.21(h))

\$ _____

- ☐ petition fee for filing by other than all the inventors or person on behalf of the inventor where inventor refused to sign or cannot be reached. (\$120.00; 37 CFR 1.47 and 1.17(h))

\$ _____

- ☐ for processing an application with a specification in a non-English language. (\$30.00; 37 CFR 1.52(d) and 1.17(k))

\$ _____

- ☐ processing and retention fee
(\$120.00; 37 CFR 1.53(d) and 1.21(l))

- ☐ fee for international-type search report (\$30.00; 37 CFR 1.21(e)).

\$ _____

NOTE: 37 CFR 1.21(f) establishes a fee for processing and retaining any application which is abandoned for failing to complete the application pursuant to 37 CFR 1.53(d) and this, as well as the changes to 37 CFR 1.53 and 1.78, indicate that in order to obtain the benefit of a prior U.S. application, either the basic filing fee must be paid or the processing and retention fee of § 1.21(f) must be paid within 1 year from notification under § 53(d).

Total fees enclosed\$ 0

14. Method of Payment of Fees

- ☐ Check in the amount of \$_____
- ☐ Charge Account No. _____ in the amount of \$_____. A duplicate of this transmittal is attached.

NOTE: Fees should be itemized in such a manner that it is clear for which purpose the fees are paid. 37 CFR 1.22(b).

15. Authorization to Charge Additional Fees

WARNING: If no fees are to be paid on filing the following items should not be completed.

WARNING: Accurately count claims, especially multiple dependent claims, to avoid unexpected high charges, if extra claim charges are authorized.

- ☐ The Commissioner is hereby authorized to charge the following additional fees by this paper and during the entire pendency of this application to Account No. _____:
- ☐ 37 CFR 1.16(a), (f) or (g) (filing fees)
- ☐ 37 CFR 1.16(b), (c) and (d) (presentation of extra claims)

NOTE: Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 CFR 1.16(d)), it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.

- ☐ 37 CFR 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)
- ☐ 37 CFR 1.17 (application processing fees)

WARNING: While 37 CFR 1.17(a), (b), (c) and (d) deal with extensions of time under § 1.136(a) this authorization should be made only with the knowledge that: "Submission of the appropriate extension fee under 37 C.F.R. 1.136(a) is to no avail unless a request or petition for extension is filed." (Emphasis added). Notice of November 5, 1985 (1060 O.G. 27).

- ☐ 37 CFR 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 CFR 1.311(b))

NOTE: Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 CFR 1.311(b).

NOTE: 37 CFR 1.28(b) requires "Notification of any change in loss of entitlement to small entity status must be filed in the application . . . prior to paying, or at the time of paying, . . . issue fee". From the wording of 37 CFR 1.28(b): (a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity.

16. Instructions As To Overpayment

- ☐ credit Account No. _____
- ☐ refund

Reg. No. 31,350

Tel. No. (610) 935-2300

John F. A. Earley III 4-19-99

SIGNATURE OF ATTORNEY

JOHN F. A. EARLEY III

Type or print name of attorney

P.O. BOX 750

P.O. Address

VALLEY FORGE, PA 19482-0750

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☐ **Incorporation by reference of added pages**

Check the following item if the application in this transmittal claims the benefit of prior U.S. application(s) (including an international application entering the U.S. stage as a continuation, divisional or C-I-P application) and complete and attach the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED

- ☐ Plus Added Pages For New Application Transmittal Where Benefit Of Prior U.S. Application(s) Claimed

Number of pages added _____

- ☐ Plus Added Pages For Papers Referred To In Item 4 Above

Number of pages added _____

- ☐ Plus "Assignment Cover Letter Accompanying New Application"

Number of pages added _____

☒ **Statement Where No Further Pages Added**

(If no further pages form a part of this Transmittal then end this Transmittal with this page and check the following item)

- ☒ This transmittal ends with this page.

EXPRESS MAIL LABEL NO.: EJ099701151US

MEASURING DEVICE

Cross-Reference to Related Application

This is a continuation-in-part application of co-pending Application Serial No. 08/676,497 filed on July 8, 1996, said application being incorporated herein by reference.

1. Field of the Invention

The invention relates to measuring devices, and more particularly concerns measuring devices such as straight rulers, measuring tapes, yard sticks, and carpenter rulers.

2. Background of the Invention

Straight rulers, measuring tapes, yard sticks and carpenter rulers are examples of several well known measuring devices. Each of the aforementioned measuring devices has numbers imprinted thereon which correspond to units of measure. The set of numbers is usually imprinted on the measuring device such that the numbers are arranged in upright position one after the other and increase in value starting from the first end of the measuring device.

Many measuring devices are also provided with a second set of numbers imprinted thereon. The second set of numbers usually provides a measurement scale different

than the first set of numbers. On such devices, the two sets of numbers are imprinted in upside-down orientation relative to each other along opposed lengthwise edges of the device. Each set of numbers ascends in value starting at opposed ends of the measuring device, respectively. A prior art measuring device having two sets of numbers as described above is illustrated in Fig. 1.

Prior art measuring devices such as those illustrated by the device shown in Fig. 1 are designed to measure the distance between a first point (e.g., the point being measured from) and a second point (e.g., the point being measured to) by positioning the first end of the measuring device at the first point, extending the measuring device to the second point, and determining from the measurement indicia on the measuring device the distance between the first point and the second point. In order to read the measurement right-side-up, the first end of the measuring device must be positioned to the left of the point being measured to. If the first end of the measuring device is positioned to the right of the point being measured to, prior art measuring devices such as those illustrated by the device shown in Fig. 1 must be turned upside-down. As a result, the user must read the measurement upside-down as well. This can be troublesome to the user and cause inaccurate measurements.

Prior art measuring devices have another significant

problem. Prior art measuring tapes, such as those illustrated by the measuring tape shown in Fig. 2, are provided with an "L-shaped" metal hook attached to the free end of the blade of the tape measure for removably hooking the free end to the point being measured from. Since the "L-shaped" tab extends in only one direction transverse to the surface of the measuring tape, the measuring tape is often oriented in an awkward or unreadable position. For example, to measure the underside of an object, the measuring tape must be turned over in order for the tab to hook the underside edge of the object. In this position, only the blank, reverse side of the tape is exposed.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a measuring device which may be used to measure the distance between a first point and a second point without the necessity of reading an upside-down measurement indicia (e.g., an upside-down number).

It is a further object of the present invention to provide a measuring device having two sets of measurement indicia (e.g., two sets of numbers) wherein one set of numbers is legible right-side-up whether measuring from right to left (e.g., when the point being measured from is located to the right of the point being measured to) or whether measuring from left to right (e.g., when the point being measured from is located to the left of the point being measured to).

It is yet a further object of the present invention to provide a measuring device having a tab fixed to the free end of the blade of the measuring device, the tab extending in at least two directions traverse to the lengthwise edge of the blade of the measuring device at the free end of the blade.

These and other objects are accomplished by the measuring device of the invention which may be used to measure the distance between a first point (e.g., the point being measured from) and a second point (e.g., the point being measured to) without the necessity of reading the measurement indicia upside-down. Preferably, the measuring device has two sets of numbers imprinted thereon wherein one set of numbers is legible right-side-up whether measuring from right to left (e.g., when the point being measured from is located to the right of the point being measured to) or whether measuring from left to right (e.g., when the point being measured from is located to the left of the point being measured to).

The measuring device comprises a rule for measuring the distance from a first point to a second point. The rule comprises a base having a reference end which in use is aligned with the point being measured from and an opposed end, said base comprising an elongated rectangular-shaped flat material. The base has two sets of numbers imprinted thereon which correspond to units of measure. The first set of numbers is imprinted along a first lengthwise edge of the base and positioned on the

base such that the numbers are arranged in an upright position one after the other and increase in value when read from the reference end of the ruler toward the opposed end. The second set of numbers is imprinted along a second lengthwise edge of the base and positioned on the base such that the numbers are arranged one after the other in upside-down position, relative to the first set of numbers, and increase in value when read from the reference end of the ruler toward the opposed end. As a result, one set of numbers is legible right-side-up whether measuring from right to left (e.g., when the point being measured from is located to the right of the point being measured to) or whether measuring from left to right (e.g., when the point being measured from is located to the left of the point being measured to).

The measuring device also comprises a measuring tape for measuring the distance from a first point to a second point. The measuring tape comprises a housing having a blade outlet and a blade hub centrally located inside the housing. The measuring tape has a flexible, elongated blade having one end connected to the blade hub and coiled into a roll around the blade hub. The blade also has a free end extending from the housing through the blade outlet. The blade has two sets of numbers imprinted thereon which correspond to units of measure. The first set of numbers is imprinted along a first lengthwise edge portion of the blade and positioned on the blade such that the numbers are arranged in upright

position one after the other and increase in value when read from the free end toward the fixed end. The second set of numbers is imprinted along a second lengthwise edge portion of the blade and positioned on the blade such that the numbers are arranged in upside-down position one after the other, relative to the first set of numbers, and increase in value when read from the free end toward the fixed end. A tab is fixed to the reference end of the blade for temporarily and removably hooking the free end to the point being measured from, said tab extending in at least two directions transverse to a lengthwise edge of the blade at the free end of the blade. As a result, one of said sets of numbers is legible right-side-up whether measuring from right to left (e.g., when the point being measured from is located to the right of the point being measured to) or whether measuring from left to right (e.g., when the point being measured from is located to the left of the point being measured to).

The measuring tape may also include a tab fixed to the free end of the blade, wherein the tab comprises a base fixed to the free end of the blade and an extension removably connected to the base. The extension has a slot into which the base is inserted for removable interconnection therewith. The extension extends in at least two directions transverse to the surface of the blade.

Brief Description of the Drawings

Fig. 1 is a top plan view of a prior art ruler having two measurement scales;

Fig. 2 is a fragmentary perspective view of the end of a prior art measuring tape;

Fig. 3 is a top plan view of a rule having two measurement scales imprinted thereon in accordance with an embodiment of the invention;

Fig. 4 is a top plan view of a rule having two measurement scales imprinted thereon in accordance with an embodiment of the invention;

Fig. 5 is a perspective view of a measuring tape having two measurement scales imprinted thereon in accordance with an embodiment of the invention;

Fig. 6 is a fragmentary perspective view of the end of a measuring tape having two measurement scales imprinted thereon in accordance with an embodiment of the invention;

Fig. 7 is a fragmentary perspective view of the reference end of a measuring tape in accordance with an embodiment of the invention;

Fig. 8 is a fragmentary perspective view of the reference end of a measuring tape in accordance with an embodiment of the invention;

Fig. 9 is a fragmentary perspective view of the reference end of a measuring tape in accordance with an embodiment of the invention;

Fig. 10 is a fragmentary view in side elevation of

the reference end portion of a measuring tape in accordance with an embodiment of the invention;

Fig. 11 is a view in rear elevation of the extension portion of a tab in accordance with an embodiment of the invention;

Fig. 12 is a top plan view of a ruler constructed in accordance with another embodiment of the invention;

Fig. 13 is a fragmentary perspective view of the reference end of a measuring tape in accordance with an embodiment of the invention;

Fig. 14 is a fragmentary perspective view of the reference end of a measuring tape in accordance with an embodiment of the invention; and

Fig. 15 is a view in elevation showing an alternative extension.

Detailed Description of the Drawings

A measuring device according to an embodiment of the invention is illustrated in Fig. 3. The measuring rule 10 comprises a elongated, rectangular-shaped base 12 made of flat, rigid material such as wood, metal or plastic. The base 12 may be provided in standard lengths such as 12 inches, 18 inches, 36 inches or 48 inches, or any other desired length. One end of the base 12 is a reference end 12c from which measurements are calculated.

The base 12 has two sets of numbers and indicator lines imprinted thereon which correspond to units of measure. The units of measure may be either standard or

metric. The first set of numbers 14 and indicator lines 16 are imprinted along the bottom, lengthwise edge 12b of the base 12. The bottom edge 12b is described with reference to Fig. 3. However, as described below, either lengthwise edge may be defined as the bottom edge since the base is symmetrical about its lengthwise axis.

The numbers in the first set 14 are arranged in an upright orientation relative to the bottom edge 12b. In other words, the base of the numbers in the first set 14 is proximal the bottom edge 12b compared to the apex of the numbers. The numbers in the first set 14 sequentially increase in value from the reference end 12c of the base 12 to the other end 12d of the base 12.

The second set of numbers 18 and indicator lines 20 are imprinted along the top, lengthwise edge 12a of the base 12. The top edge 12a is described with reference to Fig. 3. However, as described below, either lengthwise edge may be define as the top edge since the base is symmetrical about its lengthwise axis.

The numbers in the second set 18 are arranged in a right-side-up orientation relative to the top edge 12a. In other words, the base of the numbers in the second set 18 is proximal the top edge 12a compared to the apex of the numbers. The numbers in the second set 18 also sequentially increase in value from the reference end 12c of the base 12 to the other end 12d of the base 12.

The first and second sets of numbers are arranged in a right-side-up orientation relative to the bottom 12b

and top 12a edges of the base, respectively. Further, the first and second sets of numbers are arranged in an upside-down relation relative to each other. However, both the first and second set of numbers begin at and sequentially increase in value from a common or reference end 12c of the base 12. Therefore, one set of numbers which sequentially originates from the reference end 12c is always legible right-side-up whether the reference end is positioned to the left or to the right of an object or point which is to be measured to. Prior art measuring rulers do not provide this function. For example, referring to the prior art ruler in Fig. 1, the numbers are oriented right-side-up only when measuring from left to right, that is, only when measuring to a point that is to the right of the point being measured from.

The measuring rule in Fig. 3 illustrates an embodiment in which the bottom edge 12b is the preferred edge from which to take a measurement. A measuring device according to an further embodiment of the invention is illustrated in Fig. 4 in which the top edge 112a is the preferred edge from which to take a measurement. The measuring device 110 is similar to the measuring device 10 described above except that the numbers in the first set 114 and the second set 118 are arranged in an upside-down orientation relative to the bottom edge 112b and top edge 112a of the base 112, respectively.

A measuring device according to an further

embodiment of the invention is illustrated in Figs. 5 and 6. The measuring tape 210 comprises a housing 230 having opposed side walls 232, 234 opposed front and back walls 236, 238 and opposed top and bottom walls 240, 242. The housing has a tape outlet 244 on the front wall 236 out of which a flexible measuring blade may be extended.

The measuring tape 210 includes a measuring blade 246 comprising a flexible, coilable metallic strip. A fixed end 246d of the measuring blade 246 is fixed to and coiled into a roll around a tape hub 248 centrally located inside the housing 230. A free end or reference end 246c of the blade 246 extends through the tape outlet 244. The reference end 246c of the blade 246 has a tab 250 fixed thereto for temporarily and removably hooking the reference end 246c to a reference point or object. Referring to Fig. 5, the tab 250 comprises an "L-shaped" metallic hook extending in a downward direction perpendicular to the surface of the blade 246. The tab 250 also prevents the reference end 246c of the blade 246 from being retracted into the interior of the housing 230.

Similar to the measuring rule 10 described above, the measuring blade has two sets of numbers and indicator lines imprinted thereon which correspond to units of measure. The units of measure may be either standard or metric. The first set of numbers 214 and indicator lines 216 are imprinted along a first lengthwise edge 246b of the blade 246. The numbers in the first set 214 are

arranged in an upright orientation relative to the first edge 246b. In other words, the base of the numbers in the first set 214 is proximal the first edge 246b compared to the apex of the numbers. The numbers in the first set 214 sequentially increase in value from the reference end 246c of the blade 246 to the fixed end 246d of the blade 246.

The second set of numbers 218 and indicator lines 220 are imprinted along a second opposed edge 246a of the blade 246. The numbers in the second set 218 are arranged in a right-side-up orientation relative to the second edge 246a. In other words, the base of the numbers in the second set 218 is proximal the second edge 246a compared to the apex of the numbers. The numbers in the second set 218 sequentially increase in value from the reference end 246c of the blade 246 to the fixed end 246d of the blade 246.

The first and second sets of numbers are arranged in a right-side-up orientation relative to the first 246b and second 246a edges of the blade, respectively. Further, the first and second sets of numbers are arranged in an upside-down relation relative to each other. However, both the first and second sets of numbers begin at and sequentially increase in value from the same reference end 246c of the blade 246. Therefore, one set of numbers which sequentially originates from the reference end is always legible right-side-up whether the reference end is positioned to the left or to the right

of an object or point which is to be measured to.

The measuring tape of Fig. 5 illustrates an embodiment in which the first edge 246b is the preferred edge from which to take a measurement. In a measuring device according to an further embodiment of the invention illustrated in Fig. 6, the second edge 346a of the measuring device 310 is the preferred edge from which to take a measurement. Fig. 6 illustrates the reference end portion of the blade 346 according to this embodiment of the invention. The measuring device 310 is similar to the measuring device 210 described above except that the numbers in the first set 314 and the second set 318 are arranged in an upside-down orientation relative to the first 346b and second edge 346a of the blade 346, respectively.

Additional embodiments of the inventive measuring tape are illustrated in Figs. 7, 8, and 9 in which a tab is provided on the reference end which extends in at least two directions transverse to the surface of the blade. Referring to Fig. 7, the tab 450 comprises a "T-shaped" tab having a bracket portion 450a fixed to and coplanar with the reference end 446c of the blade 446, and a hook portion 450b extending upwardly and downwardly transverse to the surface of said blade 446.

Referring to Fig. 8, the tab 550 has a bracket portion 550a fixed to and coplanar with the reference end 546c of said blade and has an "X-shaped" hook portion 550b attached to the end of the bracket portion 550a.

The hook portion 550b extends upwardly, downwardly, and widthwise transverse to the surface of said blade 546.

Referring to Fig. 9, the tab 650 has a bracket portion 650a fixed to and coplanar with the reference end 646c of the blade 646, and has a circular disc-shaped hook portion 650b attached to the end of the bracket portion 650a. The hook portion 650b extends radially 360 degrees transverse to the surface of the blade 646.

The invention comprises further embodiments of the measuring tape illustrated in Figs. 5 and 6 having an interchangeable tab fixed to the reference end. A portion of the blade according to this embodiment of the invention is illustrated in Figs. 10 and 11. Referring to Fig. 10, the tab 750 comprises a base 752 fixed to the reference end 746c of the blade and an extension 754 removably connected to the base 752. In the embodiment illustrated in Fig. 10, the base comprises an "L-shaped" metallic hook extending in a downward direction transverse to the surface of the blade 746. The extension 756 comprises a circular disc, preferably made of metal or plastic, extending radially 360 degrees transverse to the surface of the blade 746. The extension 756 has a slot 758 into which a portion of the base is inserted for removable interconnection therewith. Alternatively, the extension 756 may have an "X" shape as illustrated in Fig. 8, a rectangular shape as illustrated in Fig. 7, or any other practical shape whereby the extension extends in at least two directions transverse to

the surface of the blade.

A further embodiment of the invention is illustrated in Fig. 12. In this embodiment, a ruler 812 such as the ruler shown in Figs. 1, 3, and 4 is provided, with the exception that a set 814 of numbers, together with indicator lines 816 are imprinted on the base such that the numbers are arranged in a right-side-up orientation when read from the right edge 812d to the left edge 812c. This embodiment of the invention facilitates measuring from a first point to a point to be measured to that is to the left of the first point since the measurement may be read by viewing numbers that are oriented right-side-up.

Additional embodiments of the inventive measuring tape are illustrated in Figs. 13 and 14 in which a rotatable tab is provided on the reference end of the blade. The measuring tape according to these embodiments may have the same numbers and indicator lines imprinted thereon as described above.

Referring to Fig. 13, the rotatable tab 950 comprises a semi-circular disc, preferably made of metal or plastic. The rotatable tab 950 is rotatably fastened with a pivot fastener 952 to a pivot pin 954. Preferably, the pivot fastener 952 is fastened near the diametrical edge of the rotatable tab 950 such that the radial portion of the rotatable tab 950 may be positioned to extend 360 degrees transverse to the surface of the blade 946 upon rotation of the rotatable

tab 950 relative to the pivot pin 954. Alternatively, the tab 950 may comprise various other shapes. However, whichever shape is selected, it is preferred that the rotatable tab 950 be fastened to the pivot pin 954 near the midpoint of one edge of the rotatable tab 950.

The pivot pin 954 is preferably attached to the end of the blade 946 in the manner illustrated in Fig. 13. Referring to fig. 13, fastening strips 946a are punched out of the blade generally perpendicular to the lengthwise edge of the blade. The pivot pin 954 is then inserted through the clearance 956 created between the fastening strips 946a and the blade 946. The fastening strips 946a are then crimped at one or more locations to secure the pivot pin 954 to the surface of the blade 946.

A further embodiment of the invention having a rotatable tab is illustrated in Fig. 12. In this embodiment, a base 1052 is fixed to the reference end of the blade. The base comprises an "L-shaped" metallic or plastic hook extending in a downward direction transverse to the surface of the blade 1046. A rotatable tab 1050 is rotatably fastened by a pivot fastener 1054 to the portion of the base 1052 extending in a downward direction transverse to the surface of the blade 1046. Preferably, the pivot fastener 1054 comprises a rivet. The rotatable tab 1050 may be positioned to extend 360 degrees transverse to the surface of the blade upon rotation of the rotatable tab 1050 relative to the pivot fastener 1054.

In a further embodiment of the invention, the ruler or tape described above may have numbers and indicator lines as described above imprinted on both sides of the ruler or tape.

Turning now to Fig. 15, there is shown an alternative embodiment of the extension 754 shown in Figs. 10 and 11. In this alternative embodiment, an extension 1154 is provided for removable connection to the base 752 shown in Fig. 10. The extension 1154 comprises a circular disc, preferably made of metal or plastic, extending radially 360 degrees transverse to the surface of the blade 746 when the extension 1154 is connected to the base 752 of Fig. 10. The extension 1154 is provided with a pair of slits 1160 through which a portion of the base 752 is inserted for removable interconnection therewith. Alternatively the extension 1154 has an "X" shape as illustrated in Fig. 8, a rectangular shape as illustrated in Fig. 7, or any other practical shape whereby the extension 1154 extends in at least two directions transverse to the surface of the blade.

While the above detailed description has shown, described and pointed out the fundamental novel features of the invention as applied to various embodiments, it will be understood that various omissions and substitutions and changes in the form and details of the device illustrated may be made by those skilled in the art, without departing from the spirit of the invention.

Claims:

1. A measuring tape for measuring the distance between a first point and a second point comprising

a housing having a blade outlet and a blade hub centrally located inside said housing,

a flexible elongated blade having one fixed end connected to said blade hub and coiled into a roll around said blade hub, and having a free end extending from said housing through said blade outlet, and

a tab fixed to the free end of the blade for temporarily and removably hooking the free end of the blade to the first point, said tab extending in at least two directions transverse to a lengthwise edge of the blade at the free end of the blade.

2. The measuring tape of claim 1,

the blade having two sets of indicia imprinted thereon which correspond to units of measure,

the first set of indicia including numbers imprinted along a first lengthwise edge portion of the blade and positioned on the blade such that the numbers are arranged in upright position one after the other and increase in value when read from the free end of the blade toward the fixed end of the blade, and

the second set of indicia including numbers imprinted along a second lengthwise edge portion of the blade and positioned on the blade such that the numbers are arranged in upside-down position one after the other, relative to the first set of numbers, and increase in

value when read from the free end of the blade toward the fixed end of the blade,

wherein one of the sets of numbers is legible right-side-up whether the free end of the blade is positioned at the first point or the second point.

3. The measuring tape of claim 1,

the tab being T-shaped and having a bracket portion coplanar with and fixed to the free end of the blade and a hook portion extending upwardly and downwardly transverse to the lengthwise edge of the blade at the free end of the blade.

4. The measuring tape of claim 1, the tab having a bracket portion coplanar with and fixed to the free end of the blade and an X-shaped hook portion attached to the end of the bracket portion, the hook portion extending upwardly, downwardly, and widthwise transverse to the lengthwise edge of the blade at the free end of the blade.

5. The measuring tape of claim 1,

the tab having a bracket portion coplanar with and attached to the free end of the blade and a circular disc-shaped hook portion attached to the end of the bracket portion, said hook portion extending radially 360 degrees transverse to the lengthwise edge of the blade at the free end of the blade.

6. The measuring tape of claim 2,

the first and second sets of numbers being arranged in a right-side-up orientation relative to the first and

second lengthwise edge portions of the blade, respectively.

7. The measuring tape of claim 2,

the first and second sets of numbers being arranged in an upside-down orientation relative to the first and second lengthwise edge portions of the blade, respectively.

8. The measuring tape of claim 2,

the tab being T-shaped and having a bracket portion coplanar with and fixed to the free end of the blade and a hook portion extending upwardly and downwardly transverse to the lengthwise edge of the blade at the free end of the blade, or

the tab having a bracket portion coplanar with and fixed to the free end of the blade and an X-shaped hook portion attached to the end of the bracket portion, the hook portion extending upwardly, downwardly, and widthwise transverse to the lengthwise edge of the blade at the free end of the blade, or

the tab having a bracket portion coplanar with and attached to the free end of the blade and a circular disc-shaped hook portion attached to the end of the bracket portion, said hook portion extending radially 360 degrees transverse to the lengthwise edge of the blade at the free end of the blade.

9. The measuring tape of claim 1,

the tab comprising a base fixed to the first end of the blade and an extension removably connected to the



FIG. 1
(PRIOR ART)

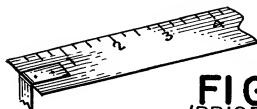


FIG. 2
(PRIOR ART)

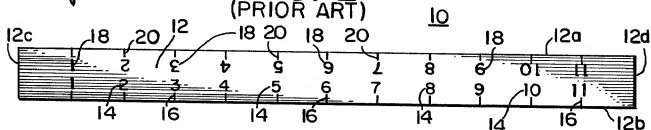


FIG. 3

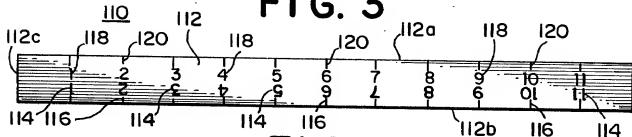


FIG. 4

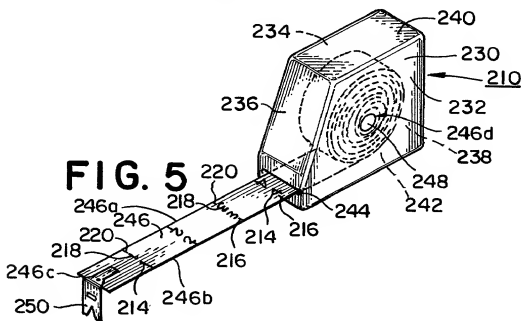
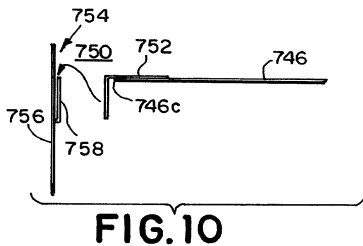
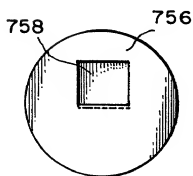
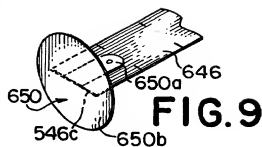
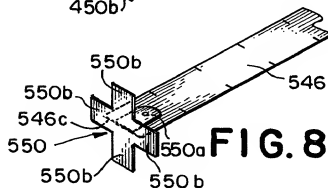
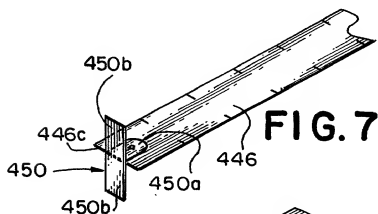
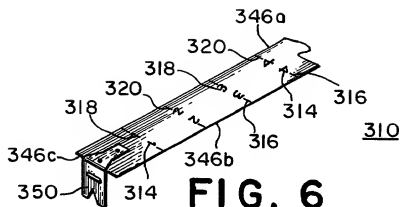


FIG. 5



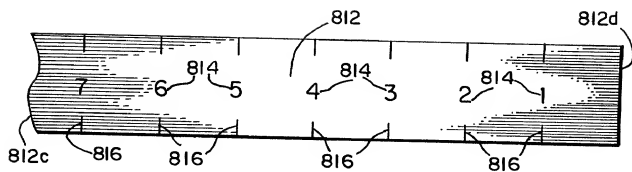


FIG. 12

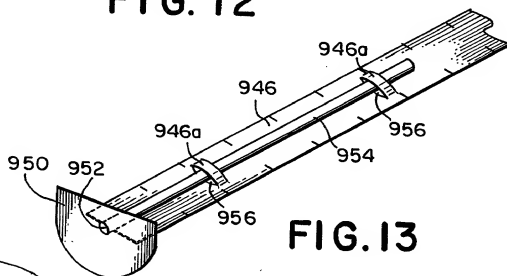


FIG. 13

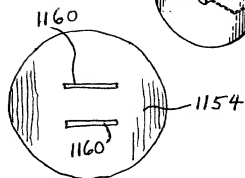


FIG. 15

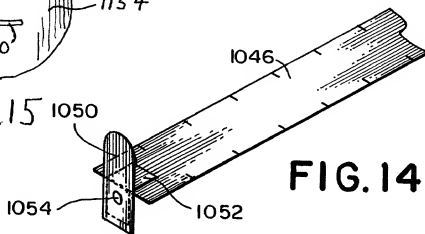


FIG. 14

base, the extension having a slot into which the base is inserted for removable interconnection therewith, and the extension extending in at least two directions transverse to the lengthwise edge of the blade.

10. The measuring tape recited in claim 9, the base comprising an "L-shaped" base, one portion of the base being coplanar with and attached to the free end of the blade.

11. The measuring tape recited in claim 9, the extension being "X-shaped" and extending upwardly, downwardly, and widthwise transverse to the lengthwise edge of the blade.

12. The measuring tape recited in claim 9, the extension being a circular disc extending radially 360 degrees transverse to the lengthwise edge of the blade.

13. The measuring tape recited in claim 9, said first and second sets of numbers being arranged in a right-side-up orientation relative to the first and second lengthwise edges of said blade, respectively.

14. A ruler for measuring the distance from a reference point to a second point comprising

a base having a reference end and an opposed end, said base comprising an elongated rectangular-shaped flat material, and having two sets of numbers imprinted on the base which correspond to units of measure,

the first set of numbers imprinted along a first lengthwise edge of the base and positioned on the base such that the numbers are arranged in upright position

one after the other and increase in value when read from the reference end toward the opposed end, and

the second set of numbers imprinted along a second lengthwise edge of the base and positioned on the base such that the numbers are arranged one after the other in upside-down position, relative to the first set of numbers, and increase in value when read from the reference end toward the opposed end,

wherein one set of numbers is legible right-side-up whether measuring from right to left when the point being measured from is located to the right of the point being measured to or whether measuring from left to right when the point being measured from is located to the left of the point being measured to.

15. The measuring rule recited in claim 14, the first and second sets of numbers being arranged in a right-side-up orientation relative to the first and second lengthwise edges of the base, respectively.

16. The measuring rule recited in claim 14, the first and second sets of numbers being arranged in an upside-down orientation relative to the first and second lengthwise edges of the base, respectively.

17. A measuring tape for measuring the distance between a first point and a second point consisting essentially of

a housing having a blade outlet and a blade hub centrally located inside said housing,

a flexible elongated blade having one fixed end

connected to said blade hub and coiled into a roll around the blade hub, and having a free end extending from the housing through the blade outlet,

the blade having two sets of indicia imprinted thereon which correspond to units of measure,

the first set of indicia including numbers imprinted along a first lengthwise edge portion of the blade and positioned on the blade such that the numbers are arranged in upright position one after the other and increase in value when read from the free end of the blade toward the fixed end of the blade,

the second set of indicia including numbers imprinted along a second lengthwise edge portion of the blade and positioned on the blade such that the numbers are arranged in upside-down position one after the other, relative to the first set of numbers, and increase in value when read from the free end of the blade toward the fixed end of the blade, and

a tab fixed to free end of the blade for temporarily and removably hooking the free end of the blade to the first point,

wherein one of the sets of numbers is legible right-side-up whether the free end of the blade is positioned at the first point or the second point.

18. The measuring tape recited in claim 17, the tab extending in at least two directions transverse to the lengthwise edge of the blade at the free end of the blade.

19. The measuring tape recited in claim 17, the tab comprising a base fixed to said free end of the blade and an extension removably connected to the base, the extension having a slot into which the base is inserted for removable interconnection therewith, the extension extending in at least two directions transverse to a lengthwise edge of the blade at the free end of the blade.

20. The measuring tape recited in claim 19, the base comprising an "L-shaped" base, one portion of the base being coplanar with and attached to said reference end of said blade, the extension being "X-shaped" and extending upwardly, downwardly, and widthwise transverse to a lengthwise edge of the blade at the free end of the blade.

21. The measuring tape recited in claim 19, the base comprising an "L-shaped" base, one portion of the base being coplanar with and attached to the free end of the blade, said extension being a circular disc extending radially 360 degrees transverse to a lengthwise edge of the blade at the free end of the blade.

22. A tab extension for temporarily and removably hooking the free end of a blade of a measuring tape to the point being measured from, the measuring tape comprising a housing having a blade outlet and a blade hub centrally located inside said housing, a flexible elongated blade having one fixed end connected to said blade hub and coiled into a roll around said blade hub,

and having a free end extending from said housing through said blade outlet, and a tab fixed to free end of the blade for temporarily and removably hooking the free end of the blade to the first point, the tab extension comprising

a connection portion having means for removably connecting the tab extension to the tab fixed to the free end of the blade of the measuring tape, and

a hooking device portion extending in at least two directions to a lengthwise edge of the blade of the measuring tape at the free end of the blade when the tab extension is connected to the tab of the measuring tape.

23. The tab extension of claim 22,

the hooking portion being "X-shaped" and extending upwardly, downwardly, and widthwise transverse to a lengthwise edge of the blade at the free end of the blade when the tab extension is connected to the tab of the measuring tape.

24. The tab extension of claim 22,

the hooking portion being a circular disc extending radially 360 degrees transverse to a lengthwise edge of the blade at the free end of the blade when the tab extension is connected to the tab of the measuring tape.

25. The tab extension of claim 22,

the hooking portion being substantially rectangularly shaped and extending upwardly and downwardly transverse to a widthwise edge of the blade when the tab extension is connected to the tab of the

measuring tape.

26. A ruler for measuring the distance from a first point to a second point comprising

a base portion having a left end and a right end, the base comprising an elongated rectangular-shaped flat material, and

a set of numbers imprinted on the base which corresponds to units of measure,

the set of numbers being positioned on the base such that the numbers are arranged in upright position one after the other and increase in value when read from the right end of the base to the left end of the base,

wherein the set of numbers is legible right-side-up when measuring from right to left.

27. The measuring tape of claim 1,

said tab being rotatably fixed to the free end of the blade, said tab being rotatable 360 degrees transverse to the lengthwise edge of the blade at the free end of the blade.

28. The measuring tape recited in claim 17, said tab being rotatably fixed to the free end of the blade, said tab being rotatable 360 degrees transverse to a lengthwise edge of the blade at the free end of the blade.

29. The measuring tape recited in claim 2, said first end second set of indicia being imprinted on two opposed surfaces of said blade.

30. The measuring ruler recited in claim 14, said

first and second sets of numbers being imprinted on two opposed surfaces of said base.

ABSTRACT OF THE DISCLOSURE

A measuring tape for measuring the distance between a first point and a second point comprises a housing having a blade outlet and a blade hub centrally located inside the housing, a flexible elongated blade having one fixed end connected to the blade hub and coiled into a roll around the blade hub, and having a free end extending from the housing through said blade outlet, and a tab fixed to free end of the blade for temporarily and removably hooking the free end of the blade to the first point, the tab extending in at least two directions transverse to a lengthwise edge of the blade at the free end of the blade. The blade has two sets of numbers imprinted thereon which correspond to units of measure, the first set of numbers being imprinted along a first lengthwise edge portion of the blade and positioned on the blade such that the numbers are arranged in upright position one after the other and increase in value when read from the free end of the blade toward the fixed end of the blade, and the second set of numbers being imprinted along a second lengthwise edge portion of the blade and positioned on the blade such that the numbers are arranged in upside-down position one after the other, relative to the first set of numbers, and increase in value when read from the free end of the blade toward the fixed end of the blade, resulting in one of the sets of numbers being legible right-side-up whether the free end of the blade is positioned at the first point or the second point.

Declaration and Power of Attorney For Patent
Application English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

MEASURING DEVICE

the specification of which

(check one)

☒ is attached hereto.

☐ was filed on _____ as
Application Serial No. 0 /
and was amended on _____.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

Priority

Claimed

_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/> Yes	<input type="checkbox"/> No

I hereby claim the benefit under Title 35, United States Code § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

08/676,497

(Application Serial No.)

July 8, 1996

(Filing Date)

pending

(Status)
(patented, pending, abandoned)

(Application Serial No.)

(Filing Date)

(Status)
(patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY:

As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

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